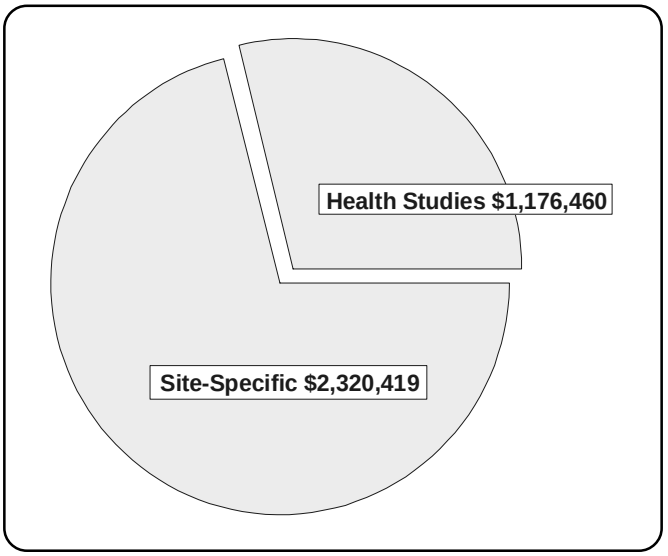
Activities in Indiana

ATSDR in Partnership with Indiana

The Agency for Toxic Substances and Disease Registry (ATSDR) is the lead public health agency responsible for implementing the health-related provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). ATSDR is an Atlanta-based federal agency with more than 400 employees. ATSDR's annual budget for 2002 is $78 million. ATSDR is responsible for assessing the presence and nature of health hazards at specific Superfund sites, helping to prevent or reduce further exposure and illnesses that result, and expanding the knowledge base about the health effects of exposure to hazardous substances.



ATSDR works closely with state agencies to carry out its mission of preventing exposure to contaminants at hazardous waste sites and preventing adverse health effects. ATSDR provides funding and technical assistance for states to identify and evaluate environmental health threats to communities. These resources enable state and local health departments to further investigate environmental health concerns and educate communities. This is accomplished through cooperative agreements and grants. At this time, ATSDR has cooperative agreements and grants with 31 states, 1 American Indian nation (Gila River Indian Community), and 1 commonwealth (Puerto Rico Department of Health). From **1986 through 2001**, ATSDR awarded more than **$3,496,879** in direct funds and services to the state of **Indiana.** In addition to direct funds and services, ATSDR staff provide technical and administrative guidance for state-conducted site activities.

ATSDR Site-Specific Activities

Public Health Assessment-Related Activities

One of the agency's important mandates is to conduct **public health assessments** of all National Priorities List (NPL) sites and of other sites where there might be a significant threat to the public health. There have been **39** sites designated to the NPL in **Indiana.**

A **public health assessment** provides a written, comprehensive evaluation of available data and information on the release of hazardous substances into the environment in a specific geographic area. Such releases are assessed for current or future impact on public health. The ATSDR staff, in conjunction with public health and environmental officials from **Indiana**, have conducted **61** health assessments in the state.

A **health consultation** is a written or oral response from ATSDR to a specific request for information about health risks related to a specific site, chemical release, or hazardous material. It is a more limited response than a public health assessment. To date, **64** documented health consultations have been conducted at **45** sites in **Indiana.**

Health Studies

Health studies are conducted to determine the relationship between exposure to hazardous substances and adverse health effects. Health studies also define health problems that require further investigation through, for example, a health surveillance or epidemiologic study.

Following are descriptions of some of the site-specific health studies and investigations that ATSDR has conducted or supported in **Indiana**.

National Exposure Registry (NER): TCE Subregistry - The National Exposure Registry is comprised of chemical-specific subregistries designed to aid in assessing the long-term health consequences of low-level, long-term exposures to hazardous chemicals identified at hazardous waste sites. Trichloroethylene (TCE), a synthetic chemical that does not occur naturally in the environment, was selected for the first chemical subregistry of the NER. The greatest source of TCE in the environment is, by far, industrial; factories use TCE to remove grease from metals. TCE can also enter air and water when it is released from hazardous waste sites. Occupational and animal studies suggest that TCE is associated with neurotoxicity, genotoxicity, and immunotoxicity. Data concerning nonoccupational exposures, such as environmental exposures and their potential health effects, however, are sparse and inconclusive. ATSDR has selected sites throughout the nation where TCE exposures have occurred. At these sites, initial (or baseline) and follow-up interviews have been conducted; 4,986 people from 15 areas associated with hazardous waste sites in five states have been enrolled in the subregistry.

Health outcome rates for the TCE Subregistry are compared with national rates, as determined by the National Health Interview Survey. Health outcomes reported in significant excess by the TCE Subregistry members during one or more of the data collection periods (for certain age and sex groups) included speech impairment; hearing impairment; anemia and other blood disorders; effects of stroke; urinary tract disorders; liver problems; kidney problems; diabetes; and skin rashes, eczema, or other skin allergies. Health outcomes that were significantly lower among registrants were hearing impairment (after age 25 years); asthma, emphysema, and chronic bronchitis; arthritis, rheumatism, or other joint disorders; and other respiratory allergies, such as hay fever.

The **Indiana sites** included in the TCE Subregistry are all in Elkhart and include the Gemeinhardt Company Inc., Superior Street Area, Elkhart Central Area (formerly known as the Marshall-Gordon Street Area), and the Conrail Rail Yard. Baseline data collection occurred in 1989; follow-up interviews were conducted in 1990, 1991, 1993, 1995, 1997, and 2000.

Community Exposure to Carbon Tetrachloride and Trichloroethylene (TCE) - Community members at the Conrail Rail Yard Site in Elkhart, **Indiana,** requested further information about their exposures to carbon tetrachloride and TCE. Private well water contamination was found in the community as a result of spills at the rail yard. The Environmental Protection Agency provided an alternate water source for affected community members when the contamination was discovered in 1986, and by 1996, over 600 homes had been connected to the municipal water supply. Some of the community members were included on ATSDR's National Exposure Registry: TCE Subregistry, but questions about carbon tetrachloride exposure needed to be answered. A comprehensive public health assessment is being conducted at the site. The document should be complete in late 2002. In the mean time, extensive health education is being conducted for area health care providers to assist them in recognizing and testing for possible health outcomes in people exposed to TCE and carbon tetrachloride that was present in their drinking water. A birth outcome health study is being considered for the site.

The General Motors Company in Bedford, Indiana, has released polychlorinated biphenyls (PCBs) into an area stream. Some PCB contamination has been deposited along stream beds and possibly in soil of yards that border the stream. A community member asked ATSDR to provide information about PCB exposures. In mid-2001, General Motors Company offered blood testing to community members who believe they have been exposed to PCBs and offered to buy property that has been contaminated by PCBs. The **Indiana State Department of Health**, through the ATSDR cooperative agreement, has agreed to provide health consultation to General Motors and to community members regarding exposures to PCBs.

Exposure Assessment by Integrating Environmental Transport Models, Demographic Analysis and Geographic Information Systems - The role of exposure assessment in investigating and understanding environmental health issues is to provide the linkage between information about and analyses of environmental contamination (by single- and multiple-media routes of exposure) and the potential for increased health risk or other consequences of exposure to toxic substances in humans. Therefore, exposure assessment of populations encompasses multi-disciplinary scientific fields ranging from environmental contaminant source identification to epidemiologic investigations. When conducting exposure assessments, it is necessary to integrate geochemical and environmental data bases to determine the potentially exposed populations. This process is rather difficult and time consuming. Geographic Information Systems (GIS), however, provide a platform in which layered, spatially distributed data bases can be manipulated with ease, thereby simplifying significantly the data base management, visualization, and spatial analysis activities required to accomplish exposure assessment tasks. This study described procedures that combined environmental transport analyses (data distribution and simulation models) with demographic data bases under a GIS platform to automate exposure assessment activities. The procedures significantly simplified the pre- and post-processing data management phase of the analysis and rendered the overall task more user friendly. A site-specific application, using the site at Elkhart, **Indiana**, was included as a demonstration of the proposed process.

Toxicological Profiles

ATSDR develops toxicological profiles that describe health effects, environmental characteristics, and other information for substances found at NPL sites. These profiles contain information on pathways of human exposure and the behavior of hazardous substances in environmental media such as air, soil, and water. In the past 5 years, more than **442** of these profiles have been sent to requesters, including representatives of federal, state, and local health and environmental departments; academic institutions; private industries; and nonprofit organizations in **Indiana**.

If you would like additional information, contact ATSDR toll-free at (888) 42ATSDR, that is, (888) 422-8737 or visit the homepage at http://www.atsdr.cdc.gov

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